



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND
1333 ISAAC HULL AVE SE
WASHINGTON NAVY YARD DC 20376-0001

9077 IN REPLY TO
Ser 07TC5/571
02 Jan 03

SEA 07T STANDARD OPERATING PROCEDURE NO. 1 REV 2

From: SEA 07T

Subj: SUBMARINE HULL, MECHANICAL, AND ELECTRICAL (HM&E)
ENGINEERING QUALITY ASSESSMENT (EQA)

Ref: (a) SEA 92T SOP No. 1 Rev 1 Ser 92TC5/0195 of 12 May 98
(b) SEA 92T/SEA 05 Operating Procedure No. 03; Submarine Hull, Mechanical, and Electrical Engineering Quality Assessment (EQA)
(c) SEA 03/SEA 92T Memorandum of Agreement of 27 August 1999; Delegation of Technical Authority From the Engineering Directorate (SEA 03) to the Submarine Directorate - Hull, Mechanical, and Electrical Engineering Management Division (SEA 92T)
(d) NAVSEAINST 5400.95B of 01 May 02

1. PURPOSE: To update reference (a) to:

- Reflect SEA 05 participation utilizing the process defined in reference (b) to assess SEA 07T's compliance with the technical authority delegated by reference (c).
- Eliminate the review of naval shipyard non-conformances dispositioned locally in accordance with reference (d).
- Reflect other program changes as appropriate.

2. BACKGROUND: The 1995 SEA 92 Internal SUBSAFE Functional Audit determined that the internal quality overview of technical processes was poorly defined. It was recognized that large engineering organizations typically include an internal EQA function to maintain quality products. The 1999 NAVSEA Internal SUBSAFE Functional Audit recommended enhancements to the current program that are being implemented by this update.

3. SEA 07TC RESPONSIBILITIES: SEA 07TC is responsible for assessing the engineering quality for all Submarine HM&E products and processes utilized and produced by SEA 07T in support of Team Submarine (T-SUB) Program Managers. In executing this responsibility, SEA 07TC will manage the EQA

Subj: SUBMARINE HULL, MECHANICAL, AND ELECTRICAL (HM&E)
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process defined below and further defined in reference (b) and as a minimum, accomplish the following:

3.1 Maintain EQA documentation current.

3.2 Identify areas involving products and processes SEA 07T prepares, reviews, or approves in support of T-SUB that will be assessed on a rotational basis.

3.3 Plan, schedule, and conduct quarterly assessments for accomplishment on a calendar year cycle.

3.4 Coordinate with SEA 05U to obtain the following in accordance with reference (b) with respect to:

3.4.1. Candidate assessment areas for monitoring SEA 07T's execution of technical authority delegated by reference (c).

3.4.2 Assessment guidelines for monitoring technical authority and SEA 07T/SEA 05 operating procedure compliance.

3.5 Prepare the EQA quarterly report in accordance with the template in reference (e). The report will include the following:

3.5.1 The assessment areas and results, significant findings, and opportunities for improvement in both 07T and T-SUB processes and products.

3.5.2 The status of current and past EQA opportunities for improvement.

3.5.3 The EQA assessment areas planned for the next four quarters.

3.6 Obtain concurrence from SEA 05U with the findings, recommended opportunities for improvement, and final report before issuing the quarterly report.


3.7 Issue the EQA quarterly report.

3.8 Track resolution and implementation of recommended "Opportunities for Improvement" and technical authority issues.

Subj: SUBMARINE HULL, MECHANICAL, AND ELECTRICAL (HM&E)
ENGINEERING QUALITY ASSESSMENT (EQA)

3.9 Maintain the master EQA assessment files

4. ADDITIONAL RESPONSIBILITIES SEA 05 representatives will participate in the EQA process in accordance with reference (b).


STEVE SCHULZE
By direction

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SEA 05B/U/U3
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PMS 392
PMS 395
PMS 398
PMS 450/450T/450CSS



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IN REPLY REFER TO

9077

Ser 92TC5/0195
12 May 98

SEA 92T STANDARD OPERATING PROCEDURE (SOP) NO. 1 Rev 1

From: SEA 92T

Subj: SEA 92T ENGINEERING QUALITY ASSURANCE (EQA)

Ref: (a) SEA 92T SOP Ser 92TC5/1169 of 23 Oct 96
(b) NAVSEAINST 5400.95A

1. PURPOSE: To update reference (a) to reflect SEA 03 and SEA 92Q participation in EQA Audits. This SOP further redefines the scope of the audits to include all Hull, Mechanical, and Electrical (HM&E) products prepared and/or reviewed by SEA 92T in support of the Program Managers in SEA 92 and Program Executive Office for Submarines (PEO-SUBS), nonconformances adjudicated locally by Naval Shipyard Chief Engineers (CHENGs), and trend analysis of shipyard and fleet nonconformances.

2. BACKGROUND: The 1995 SEA 92 Internal SUBSAFE Functional Audit determined that internal quality overview of technical processes is poorly defined. It was recognized that large engineering organizations typically include an internal EQA function to maintain quality products. The following changes were made to increase the scope of the program:

a. Representatives of the NAVSEA Chief Engineer's (CHENG's) Office (SEA 03U3) and the SUBSAFE Program Office (SEA 92Q) were added to the audit team.

b. Reference (b) necessitated the review of nonconformances locally dispositioned by Shipyard CHENGs.

c. Conduct trend analyses of selected shipyard and fleet nonconformances.

Subj: SEA 92T ENGINEERING QUALITY ASSURANCE (EQA)

3. POLICY:

3.1 SEA 92TC Responsibilities. SEA 92TC is responsible for maintaining EQA for all Submarine Hull, Mechanical, and Electrical (HM&E) products and processes within SEA 92T. In executing this responsibility, SEA 92TC will, as a minimum, ensure the following is accomplished:

a. Schedule and conduct periodic technical audits/reviews of:

- (1) Nonconformance Approval Process
- (2) Correspondence System
- (3) Liaison Action Request's (LARs)
- (4) Locally Dispositioned Shipyard Nonconformances
- (5) Technical correspondence including:
 - (a) Operating Cycle Extension Assessments
 - (b) Sea Trial Agenda Reviews
 - (c) Deep Diving General Overhaul Specifications (DDGOS)
 - (d) Ship alterations
 - (e) SUBSAFE Design Reviews
 - (f) Unrestricted Operation Maintenance Requirement Card (URO/MRC) Reviews
 - (g) Ship System and Technical Manual Changes

b. Provide quarterly status reports to SEA 92T, SEA 92Q and cognizant program managers summarizing the results of HM&E EQA internal audits and reviews conducted during the quarter.

c. Identify actions to improve the SEA 92T internal products and processes.

d. Prepare trend analyses of shipyard and fleet nonconformances and report results to SEA 92Q to support functional audits.

3.2 SEA 03U3 Responsibilities. As the NAVSEA CHENG's primary point of contact for SUBSAFE matters, SEA 03U3 will at a minimum accomplish the following:

a. Participate in EQA audits and prepare audit cards.

Subj: SEA 92T ENGINEERING QUALITY ASSURANCE (EQA)

b. Respond to audit action items as required to improve SEA 92 internal processes and products.


3.3 SEA 92Q Responsibilities: As the director of the SUBSAFE Program, SEA 92Q has the following responsibilities:

a. Provide SEA 92TC copies of shipyard audit schedules to coordinate review of locally dispositioned nonconformances with scheduled functional audits.

b. Participate in EQA audits, and prepare audit cards.

c. Respond to audit action items as required to improve SEA 92 internal processes.

d. Recommend future audit topics based on the results of shipyard audits.



JOHN H. JAMES, JR.

Distribution:

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SEA 92TN/TO/TM/TQ/TO1
SEA 92/92B
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23 Oct 96

SEA 92T STANDARD OPERATING PROCEDURE (SOP) NO. 1

From: SEA 92T

Subj: SEA 92T ENGINEERING QUALITY ASSURANCE (EQA)

Ref: (a) PMS390T SOP Ser 390TC3/0376 of 3 Mar 95

1. PURPOSE: To update reference (a) to reflect current organizational relationships. This SOP assigns responsibility for maintaining EQA within SEA 92T to SEA 92TC.
2. BACKGROUND: The 1995 SEA 92 Internal SUBSAFE Functional Audit determined that internal overview of technical processes is poorly defined, with respect to the SEA 92 quality function as defined. It was recognized that large engineering organizations typically include an internal EQA function to maintain quality products.
3. POLICY: SEA 92TC is responsible for maintaining EQA for all Submarine Hull, Mechanical, and Electrical (HM&E) issues. In executing this responsibility, SEA 92TC will, as a minimum, ensure the following is accomplished:
 - a. Conduct periodic technical audits/reviews of:
 - (1) Waiver files
 - (2) Departures from Specification (DFS) files
 - (3) Liaison Action Request's (LARs)
 - (4) Technical correspondence:
 - (a) Material Condition Assessments (MCA)
 - (b) Sea Trial Agenda Reviews
 - (c) Deep Diving General Overhaul Specifications (DDGOS)
 - (d) Submarine Safety (SUBSAFE) alterations
 - (e) SUBSAFE Design Reviews
 - (f) Unrestricted Operation Maintenance Requirement Card (URO/MRC) Reviews
 - (g) Ship System and Technical Manual Changes

Subj: SEA 92T ENGINEERING QUALITY ASSURANCE (EQA)

b. Provide quarterly status reports to SEA 92T summarizing the results of HM&E EQA internal audits and reviews conducted during the quarter.

c. Provide annual reports to SEA 92T reflecting the following:

- (1) Quality of the HM&E products issued during the reporting period.
- (2) Trends in the overall quality of products.
- (3) Recommendations (required training, functional improvements, process/policy changes as required)



GUY L. MOSSMAN

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Subj: SEA 92T ENGINEERING QUALITY ASSURANCE (EQA)

b. Provide quarterly status reports to SEA 92T summarizing the results of HM&E EQA internal audits and reviews conducted during the quarter.

c. Provide annual reports to SEA 92T reflecting the following:

- (1) Quality of the HM&E products issued during the reporting period.
- (2) Trends in the overall quality of products.
- (3) Recommendations (required training, functional improvements, process/policy changes as required)



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